8 BU inhibitor level. One week later, factor VIII level reached 30%, with 2 BU. Unfortunately, the patient had a sudden heart failure, leading to a fatal pulmonary edema. No autopsy could be carried out.

The occurrence of various autoantibodies has previously been reported, mainly in the postpartum period [5]. The hypothesis of alterated immune response is suggested. In the elderly, reduced suppressor T-cell activity can modify immune tolerance, leading to increased autoantibody production. However, the simultaneous correction of the biological and dermatological abnormalities by steroids argues for a possible role of a pathological clone in the present case.

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Successful Treatment of Acute Promyelocytic Leukemia in a Pregnant Jehovah's Witness With All-Trans Retinoic Acid, rhG-CSF, and Erythropoietin

To the Editor: In July 1994 we admitted a 28-year-old female Jehovah's Witness with acute promyelocytic leukemia (APL), who was 14 weeks pregnant. Because of her religious belief, doctors at two hospitals refused to treat her unless she agreed to receive blood transfusions.

On admission, she complained of exertional dyspnea, epistaxis, gum bleeding, and easy bruising for 1 month. Physical examination revealed pale conjunctivae and intermittent oozing of blood from the gums. Gynecological examination revealed a uterine size consistent with 14 weeks of gestation. Laboratory studies revealed white blood cell count (WBC) of 0.5×10^9/l with differentials composed predominantly of promyelocytes, hematocrit 18.4%, hemoglobin 6.2 g/dl, and platelets 11×10^9/l. Differential interference contrast (DIC) screening showed plasma thromboplastin (PT) 12.3″ (control: 12.8″), activated partial thromboplastin time (aPTT) 38.8″ (control: 33.8″), fibrinogen 298 mg/dl, fibrin degradation product (FDP) 20 μg/ml. The lactate dehydrogenase (LDH) and other biochemistry profiles were all within normal limits. A bone marrow study in another hospital showed abnormal promyelocytes with typical Auer body and faggot formation, comprising 72% of marrow cellularity. Cytogenetic studies failed due to the absence of the marrow metaphase.

Since the patient insisted that no blood products be used during her care in any circumstance and refused to undergo abortion, we chose to use all-trans retinoic acid (ATRA) because the need for blood products support would be minimized. She was treated with ATRA 45 mg/m²/day in three divided doses. Based on in vitro [1] and in vivo [2] data suggesting that the combination of ATRA and rhG-CSF can accelerate differentiation of APL cells, rhG-CSF 75 μg/day s.c. was initiated from day 4 to day 10. WBC increased during this time from 0.58×10^9/l to 21.08×10^9/l, and no sign of retinoid syndrome was noted. Recombinant human granulocyte colony-stimulating factor (rhG-CSF) was discontinued, with subsequent resolution of the leukocytosis and slow inclining of absolute neutrophil count (ANC) (Fig. 1). After 30 days of ATRA therapy, ANC reached $>1.5 \times 10^9$/l and the platelet count normalized. Because of progressive anemia (Hb 6.2 g/dl on admission to 3.7 g/dl 3 weeks later), we initiated recombinant human erythropoietin (rhEPO; 2,000 IU TIW) on day 10 to minimize fetal distress. The rhEPO was discontinued on day 37 when the reticulocytes reached 9.1% and Hb 7.3 g/dl. The bone marrow study conducted at that time was consistent with complete remission. During hospitalization, there were no major complications. Bleeding was limited to minor epistaxis, gum bleeding, and retinal hemorrhage.

The patient received ATRA for 60 days. Her hemogram remained normal for the rest of pregnancy. A healthy female baby was delivered by C/S at 40 weeks. Cytogenetic study of cord blood showed normal 46,XX karyotype. No sign of relapse has been noted during the 12-month follow-up period.

ATRA has been used in pregnant APL patients with good results [3,4], but this is the first report of a patient without blood component support surviving ATRA treatment. Since we could not transfuse blood components against this patient's will [5], we reasoned that ATRA administration, not associated with treatment-related DIC, be the most reasonable option. Even though limited data exist regarding the combination of rhG-CSF with ATRA, we hoped that such a strategy would aid differentiation and further decrease the need for blood product administration.

Retinoids are potentially teratogeneic. Although prior case reports have documented that ATRA can be used in the second [3] or third [4] trimester without fetal malformation, we report the earliest safe use of this drug in a pregnant patient with APL.

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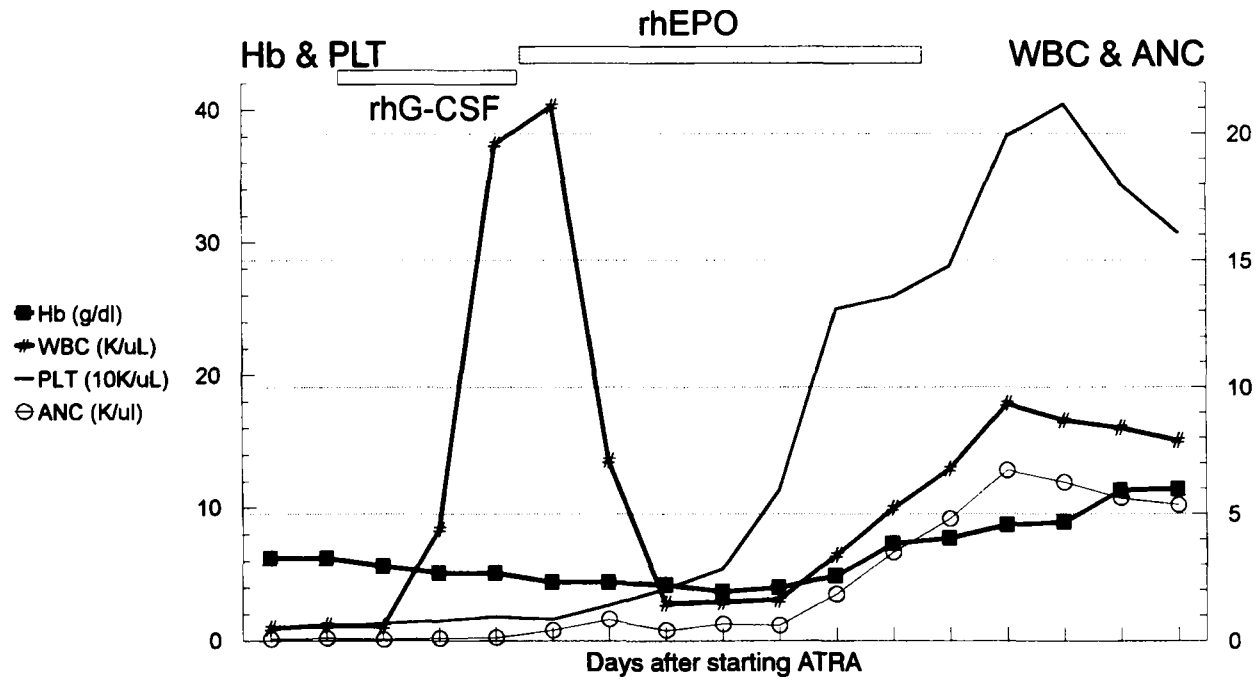

	1	3	5	7	9	11	14	18	22	25	30	36	43	54	59	75	96
Hb (g/dl)	6.2	6.2	5.6	5.1	5.1	4.4	4.4	4.2	3.7	4	4.9	7.3	7.7	8.7	8.9	11.3	11.4
WBC (K/uL)	0.5	0.61	0.58	4.4	19.59	21.08	7.11	1.46	1.53	1.61	3.38	5.21	6.76	9.33	8.67	8.39	7.88
PLT (10K/uL)	1.1	1	1.3	1.5	1.8	1.6	2.7	3.9	5.4	11.3	25	25.9	28.2	38	40.4	34.4	30.7
ANC (K/ul)	0.07	0.1	0.05	0.1	0.13	0.42	0.85	0.41	0.67	0.61	1.84	3.49	4.8	6.71	6.24	5.62	5.35

Fig. 1. Serial change of WBC, ANC, Hb, and platelets after ATRA, rhG-CSF, and erythropoietin therapy. RhG-CSF caused a mobilization effect of WBC. ANC began to increase after rhG-CSF was discontinued.

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Symptomatic Porphyria Cutanea Tarda and B-Immunoblastic Lymphoma: Is There an Association?

To the Editor: Prophyria cutanea tarda (PCT) is the most common form of hepatic porphyria. It has been associated with malignancies including hepatocellular carcinoma, leukemia, multiple myeloma, and lymphoma [1–5]. The initial possible association between PCT and lymphoma was described by Rayhanzadeh et al. [1]. Subsequent case reports further suggested that an association may be present [2–5].

We report a case of a 54-year-old businesswoman who presented with several months of intermittent, vesicular, tender skin lesions on the dorsum of both hands and occasionally on the face, ulcerating and resolving spontaneously. She also had a history of skin fragility and pruritus of both hands. She had no previous history of significant alcohol use, iron supplementation, hepatitis C infection, or family history of PCT. She had been started on estrogen replacement postoophorectomy 2 years earlier.

Her examination showed multiple, slightly raised erythematous lesions on the dorsum of both hands, and a slightly tender 3 × 4 cm fixed left axillary mass. Her liver enzymes were normal, and a 24-hr urine study for porphyrin showed elevated uroporphyrin (1,225 μg/day; normal, 0–50 μg/day) and coproporphyrin (335 μg/day; normal, 80–250 μg/day). Infection with hepatitis C virus and iron overload conditions were excluded. A biopsy of the left axillary node confirmed B-immunoblastic lymphoma. Further staging workup resulted in the diagnosis of stage II B-immunoblastic lymphoma. Estrogen replacement was stopped, and the patient was treated with six cycles of chemotherapy (cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP)) with complete remission or her lymphoma. Her biochemical abnormalities for PCT remained elevated for 12 months posttreatment (urine uroporphyrin ranged from 1,445–2,775 μg/24 hr, and urine coproporphyrin ranged from 361–694 μg/24 hr).

This patient's concomitant diagnosis of PCT with lymphoma again raises the possibility of an association between these two conditions. In all previously described cases, the clinical course of PCT in lymphoma patients has varied widely during treatment. None of these patients survived long enough to comment further on the course of their PCT [1–5]. In all these cases, including ours, the criteria to establish an association between these two conditions have not been fulfilled. Furthermore, we note that our patient, despite an excellent clinical response of her lymphoma to treatment, continued to have biochemical activity of PCT.

In conclusion, although the association between lymphoma and PCT is still possible, the current data, including our patient's course, do not support it. More patients with these entities are needed to be followed clinically to draw any solid conclusions.

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